Session 1, Dialogue 2: Organics and Pest Management

Kimi Ceradon (KC) – Boston Metro Organizer for Massachusetts Chapter of NOFA/Mass and Masters student in Gastronomy at BU
Duncan Cox (DC) – Baystate Organic Certifiers
Judy Lieberman (JL) – certification administrator at Brookwood Community Farm
Bleu Grijalva (BG): New Urban Farmers in Rhode Island

Baystate Organic Certifiers, Duncan Cox
DC: I represent Baystate Organic Certifiers, a USDA accredited certifier. You have to be accredited by USDA to certify growers as organic. We certify most farms in MA, CT, and some in surrounding states, and also some in NJ. We have a range of clients; a lot of them are very small producers but some are quite large. I can talk about all kinds of things related to standards but my role on this panel is to talk about how organic standards relate to pest control. If you're a certified organic farm you are expected to focus on using sanitation, crop rotations, soil management and fertility as primary pest control points. Good old-fashioned agriculture. You're allowed to use trap crops, release beneficial predators, lures, traps and repellants, nonsynthetics (standard jargon for natural). There are a few natural insecticides that you are allowed to use. What can you use? Look at the USDA National List, OMR Generic Material List (blue book), OMRI Brand Name Material List. OMRI provides a service in that they review all kinds of materials and lets the public know if they are allowed in organic agriculture or not. Product manufacturers can also pay OMRI to review their products. Baystate Organic has its own list of suppliers. The NOFA Bulk Order is reviewed and approved by Baystate as well.

BG: The opportunity to order in the NOFA Bulk order for this season has passed.

Brookwood Community Farm, Judy Lieberman
JL: We started farming in 2006. It's state land, part of the Blue Hills Reservation, very close to Boston. The farm is a historic farm that hadn't been farmed for a long time before we formed a nonprofit and started farming it. It was originally only 1 acre, right now this field (pictured on slide) here is 2 acres. The farm probably has 25 acres of open land, but through our permit with the Department of Conservation and Recreation we're only permitted to use two. Right now we are using land on 3 different sites, none of which we own, and farm about 6 acres (?). Our mission is expanding access to fresh food among people who have limited access. We work a lot in Boston, in Dorchester, Hyde Park, and Mattapan. We partner with the Mattapan Food & Fitness Coalition.

I included this picture (pictured on slide) because we keep bees and it's part of our holistic strategy in organic farming and pest control. There are a lot of beneficial insects that pollinate crops, so take this into account in pest management. We use a lot of remay, which is a spun cloth. This is our primary pest control method; it's a preventative method. Our philosophy is if you grow in an ecological way, you're going to have natural pest control, all preventative, and have beneficial insects. But we have lots of pests that eat our plants, and disease. Remay creates a barrier. We also use it for season extension.

This (picture on slide) is another example of growing with remay. One issue is sometimes you forget what's underneath and weeds grow underneath, making it harder to cultivate plants. This is a picture of a tomato hornworm, a common pest. It is parasitized by a small braconid wasp, which paralyzes the worm. The braconid wasp is an example of a beneficial insect. Wasps parasitize a lot of things. We see a lot of ladybugs and bees, caterpillars. If some of the wasps survive, they turn into a beautiful butterfly or moth. An issue has been late blight, a fungal disease. We're not certified organic. We haven't gone through the process. We don't own the land we farm. We have three different landowners in three sights. We practice

organic methods though. All decisions you make have some benefits. We have not sprayed but are trying to do different preventative things, thinking of what varieties we plant.

New Urban Farmers in Rhode Island, Bleu Grijalva
We have property in RI and Southeastern MA. We began in 2009 on housing authority property in a community of over 5,000 residents. We have several geodesic domes, a small orchard, bees, aquaponics—a patchwork quilt of agriculture. We have since evolved. We have a small satellite system of properties, including 5-6 rural and suburban properties. We have diverse ecosystems.

What we try to do is take a holistic approach in our farming style, taking various streams of information. We practice biodynamics and mineral balancing. To date I think we've been blessed in terms of pest management and pressure. We have some Colorado potato beetle, but we have yet to lose any real crops. We inoculate our seeds and nurture our seedlings. Sending out strong, vibrant seedlings helps (prevent pest problems).

I am Mexican American and originally from Los Angeles. This has been a wonderful experience, with the residents and kids, we're on common ground. When you have mothers calling you up to watch their kids, you know you're doing something right.

Here's a picture (on slide) showing the inside of one of the geodesic domes, and on aquaponics, a 1500-gallon tank. We're testing what does and doesn't work, or resonate for us. At the end of the season we take notes and think about what we would change for the next year.

Our kids are working hands at the garden, at the farm, they want to be there. We have a corn roaster that was fabricated for us in Mexico. We can roast 130 ears of corn in 30 minutes. We grow mushrooms and kohlrabi.

We take cow horns and stuff them with manure. We place the bags of manure, and we'll take those up over the next month and create biodynamic preps.

Here's a picture (on slide) of "Old Betsy," (a tractor) built in 1946. We've amassed a nice collection of tools over the years but are working with limited resources. We are not certified organic. We use all organic practices, but haven't gone through the official procedures.

DC: A note on the organic certification process: the standards say that if you're bringing in more than $5,000 worth of sales in organic products and you're making an organic claim, you must be certified. Below that, you don't have to be certified.

JL: How do CSAs fit into that? I heard that certification was required for farmers markets or retail sales but not CSA marketing.

DC: That is a common misperception and it's understandable. But if you are claiming to your customers that it's organic, you must be certified. There's a lot of confusion we run into on that.

KC: Part of the biggest reason we don't become certified is the financial reason. It does cost money. How should growers who are adhering to practices be talking to customers about their product?

DC: There are two ways to look at it. One is if you're actually selling something that is labeled organic. On the other hand if you're just telling people it's organic that's not a situation that anyone would want to make trouble, unless you're at a farmers market and the person next to you is certified organic, and you're undermining their work. We do do market surveillance.

JL: When you're selling at a farmers market, they do say you can't have a sign that you're organic if you're not certified. Farmers adhere to that. We're part of Emass Craft, and many of those farmers practice a holistic approach and practice organic growing. There are some things I hear about like the farmer's pledge, that is a list of tenants that the owner signed off on, I don't know how these fit but I know they're out there. We have a similar pledge that we use with our CSA members that describe our philosophies and the way we farm. For our CSA, everyone comes to the farm to pick up their share each week, so they can walk around fields and see and talk to us about what we do.

DC: If you're saying, "we use organic methods", that's not something we're worried about.

KC: So you can have conversations about organic practices.

BG: Education is extremely important. It helps us build customer-producer relationships. We use phrases like "ethically produced", "holistically grown", and "pesticide- and chemical-free". While we aren't certified, we're involved in NOFA/Mass and RI. Down the road, once we can manage our time better and keep better records, we can look at organic certification.

KC: You mentioned biodynamics. Can you give us a quick overview of what that means?

BG: Sure, a quick overview of biodynamics. We have students at the Pfeiffer Center in Chestnut Ridge, NY working with us. Rudolph Steiner wrote a book in 1924 called *Agriculture* based on a series of lectures he gave. It's about growing in conjunction with lunar cycles and cosmic energy, in 9 preparations. For example, manure taken from a lactating cow is stuffed into a cowhorn, buried in the fall and dug up in spring, and then used to make preparations. We take a portion of the 500 and stir it in a vortex shape, stir it for approximately an hour, and then stir it in the opposite direction, then apply it to the periphery of the fields.

We use Comfree (a deep-routed perennial plant), which is not necessarily part of biodynamic community. Biodynamics has increased in popularity, we've seen increasing participation in biannual workshops. It allows us to be more hands-on on our farm. The more in tune we are, the more empowered we are.

KC: How many producers are in the audience? (2 hands) Consumers? (All). We also have some teachers, gardeners, and potential future producers. (from audience responses)

Q&A

Q: I empathize with my brother and sister here (referring to community gardeners). In a responsible culture we need oversight, and I respect that, but I am wary of the certification system because it keeps people on the ground off. Not all people can do that. People on the ground doing the work are not able to make the hump over. How do you plan to deal with that?

DC: There's a tough decision that was made, and went into effect in 2002. It is one of the most controversial philosophical aspects of implementing federal organic standards. The decision defined organic as a legal marketing thing with a specific meaning. The purpose is to protect the producers. Prior to the decision, the organic claim was not standardized. Producers were experiencing a race to the bottom, and were finding the lowest common denominator. Small community producers often might not need certification because their consumers know them. Organic certification is really meant for producers that have a less direct relationship to their customers and for customers who don't have a direct relationship with their producers.

Q: I think it's an interesting discussion because last year I was working with a small enterprise in Boston. I was part of the seeding, to harvesting, to packaging, to delivery and one time I came and brought a customer some kale. The customer had some kale and I said, "oh you have some kale there. I brought you some kale." The producer was like, "I have some certified organic kale." I pointed out that we are using organic practices, we're local, and not using any sprays. And the quality is good, this was just handpicked a half hour ago, I know this is better than what you got from California. It's a matter of educating. I was able to talk to her but it still went in one ear and out the next. I hear what you're saying on one end, about regulating bigger companies, but it is impacting small organizations.

DC: I have to say two things – that $5,000 threshold is probably not the best threshold for a high cost of living area. It's more appropriate in other areas. Second thing, I want us to be careful not to spend entire pest control session on organic standards.

Q: To Bleu and Judy, if you think about leafy green vegetables, what are 5 most effective pest control strategies that you've used in the last 5 years? For those of us who are thinking forward to when we may have to do farming without industrialized inputs. Can you tell us anything about remay?

JL: You can get remay at a company like Johnny's Seeds. It is expensive. We don't always have to use remay with greens. In summer, a lot of the brassicas, like kale and others we use in our salad mix, we have a problem with flea beetles. If we want to grow salad greens we have to cover them with remay in summer, but don't have to in fall. Brassicas are easier to grow, less pest problems, even with heat. In the first year at Brookwood, the land hadn't been plowed so we didn't have problems with pests like flea beetles like we are having now. If we had room to rotate crops more it would be better, but we only have permission to use one field.

Q: What is remay made of and can you reuse it?

JL: We do reuse it, it's pretty heavy duty. It starts to rip after a few years, and then we use it around the greenhouse.

BG: It's like a sponge, or cotton, a synthetic material, fine weave.

Q: Are squirrels and raccoons able to get through it?

JL: Last year we had huge deer and woodchuck issues. We put up a fence for deer, it doesn't seem to have too much impact. They were making holes in it. There are also sprays that are organic. We were using a mint one. They are pretty effective for deer and woodchuck. Be careful because they might have a taste. We were using it on carrot tops because deer were digging up carrots and eating tops. Sprays aren't dangerous to eat but they don't taste very good (i.e. on salad greens).

BG: We are big fans of remay. We use endomycorrhizal inoculant which we get from Nutrient Dense Supply Company in North Brookland, MA. Very reasonably priced. Big fans of foliar spray, comfree, stinging nettles, and kelp. We use something called universal also from NDS. A gallon will last a farmer for a few seasons. In Hollis, MA there's Brookdale Fruit Farm (one of largest apple producers in northeast). Go there and speak to Trevor – he will become your nearest and dearest friend. They sell various types of remay, irrigation equipment. You can pick up items from him at a fraction of the price you'd find elsewhere. He is a wealth of information.

Comfree is a deep-rooted plant that will pull a lot of nutrients. We make it into a tea for compost, ferment it a little bit. It is a bioaccumulator – it loves to spread. There's a love/hate relationship. You can use Russian Bock 14 – it doesn't seed as aggressively, remains somewhat contained, and we've been able to

control it. We use it to make teas. We plant the base of the fruit trees with it. We use the chop and drop method, from the permaculture movement. It adds Ca and N. We use biochemical sequences - quantomegaculture that Hugh Lovell practices – which is worth googling. We do this to manage Ca and Mg.

Q: Can you talk about the best selection for organic fruit trees for this area?

DC: It can be done but I don't know how to do it. I was certified in Washington State by Myles Mackavoy, current administrator of USDA organic program. The only fruit I felt good about the quality of growing was nonorganic, but I don't like growing nonorganic.

BG: Hugh Williams, down in Hudson Valley area, is magnificent fruit grower, never used any pesticides.

DC: I'm suspicious of Hugh. How does he do it?!

BG: Last year during a cold snap a lot of orchards lost their produce, but Hugh still had delectable fruits.

Q: There's an apple orchard in Harvard, MA called Frog Pond Farm. They also do mostly apples, organic, which are traditionally the hardest fruit to grow organically.

DC: We certify them. They must be best fruit producer I know. Let me rephrase my statement. It can be done, but you have to be prepared to accept a high rate of loss.

Q: Has anyone tried remay with trees?

BG: No, we like woodchips. Our orchard is going well. We did some clones and now we have some really strong fig trees, those are great. We have peach, cherry, apple, plums, nice and diverse, they're doing well. We have no irrigation, so trying to pull that off is a challenge, but we're doing it. Our urban farm has irrigation, but orchards are dependent on rain.

Q: Have you expanded your thought about the fruit you can grow? Kiwi, pawpaw, those plants aren't as popularly grown here, so they might have less pests?

BG: Other than cloning we have gone with root stock.

Q: Is the problem with apples that we're used to apples that look perfect?

BG: Good point, that goes with the education point. The more you know your consumer the more forgiving they can be.

KC: It's the same problem with tomatoes. Tomatoes are bred to be the way they are because consumers want perfect red tomatoes.

Q: I don't know if you do greenhouses but if you do, what are some ways to mitigate pests? Have you planned to intercrop certain herbs with main cash crops?

JL: We have a couple greenhouses. Mostly we're doing seed starting for outside planting, so they're in containers. We've also done some winter in-ground growing. Revision house does a lot of salad in greenhouses. We generally don't grow much in greenhouses in warm weather. When you heat them year-round, pests can survive. You want to break cycles by cutting off heat during winter and covering beds with plastic. Sometimes in warmer weather beetles get into the greenhouse. Generally we haven't had to

spray but occasionally we've sprayed Pyganic. It's the last resort for us, because Pyganic, although organic approved, has pyrethrins. Sometimes we use remay in the greenhouse. We've had cucumber beetles and flea beetles.

DC: I was going to say real quick, so much of the time the question is how critical is the greenhouse crop to your income? If it's not that critical you can rotate your way out of problems. If you really need the crop, ventilation is important to keep disease away, remay is good to protect from bugs.

Q: Pyrethrin – could you talk more about that? I know it's made from chrysanthemum flower but people talk like it's a toxic chemical.

JL: It would harm beneficials like honey bees, occasionally when we spray something we try to time it when things aren't flowering and when pollinators would be coming. We try to emphasize holistic growing and use them (pyrethrins) as a last resort. We go to talks where UMass Extension pushes a lot of spray. The reality is a lot of bigger growers in Boston are spraying a lot.

DC: Most of our organic growers are most challenged to not become scheduled sprayers. Greenhouses are great places for pests and diseases to concentrate and it's tempting to spray.

One thing we need to talk about is crop rotation, which is a big challenge for urban growers because of space constraints. The best thing might be to give up on a crop for a whole year, and come back next year and pests could be gone.

(Session closed)